CHAPTER IV

OTHER EFFECTS OF OIL TAXES

Changes in economic policy as significant as the oil taxes discussed in this paper would have many effects on the economy. This chapter discusses possible changes in U.S. trade patterns, changes in the ability of less developed countries to repay their international debts, and changes in the distribution of income in the United States.

EFFECTS ON U.S. TRADE AND COMPETITIVENESS

An oil import tariff or an excise tax on crude oil could improve the balance of trade, although the effect on the dollar would be somewhat ambiguous. A reduction in oil imports of 400,000 barrels per day would reduce the value of U.S. imports by approximately $3.4 billion annually. This would put upward pressure on the dollar. At the same time, however, the international transactions demand for dollars might decline as the world price of oil fell, since all oil is sold in dollars. A $5.00 per barrel oil tariff, if absorbed by producers to the extent assumed in this analysis, would reduce the rest of the non-Communist world's oil import bill by approximately $13 billion in the first year following its enactment. This would translate into an immediate reduction in the demand for dollars. This saving would also provide a stimulus for the oil-consuming economies, and their expansion would result in a greater demand for U.S. goods and the dollars with which to buy them. Thus, the effects of oil taxes on currency values cannot be predicted with confidence.

Whatever the net effects of oil taxes on the balance of trade and exchange rates, U.S. comparative advantage in international trade would be likely to shift away from those industries that are relatively oil intensive or energy intensive, since their foreign competitors would not be paying an added tariff on their energy or oil inputs. [1] This would force U.S. firms to reduce their output or else accept smaller margins. Taxes that increase the

1. Many U.S. trading partners already impose substantial taxes on both gasoline and industrial petroleum products. Japan, for instance, has a tax of $1.78 per barrel on distillate fuel oil. See Energy Information Administration, *1984 International Energy Annual* (Washington, D.C.: Government Printing Office, 1985), p. 60.

price of industrial fuel oil would be likely to increase the price paid by users of natural gas and, perhaps in the long run, coal, which together account for half of industrial energy consumption (electricity and oil account for the other half). Since most electricity is generated by nuclear or fossil fuels, raising their prices would also increase the cost of electricity to industrial and commercial consumers. Industrial consumers alone account for over one-third of U.S. electricity consumed.[2] Energy taxes would raise these prices directly, but by less than would an equivalent oil tax. Gasoline taxes, on the other hand, would mainly affect service businesses that typically do not face international competition. Automobile production, of course, is an exception to this generalization.

The extent to which costs in particular industries might rise would be determined by their energy use and by their ability to substitute other productive inputs for oil or energy. Unfortunately, recent data on oil and energy use by industry are very incomplete, while the more complete analyses of oil use by industry date to 1977. A 1983 report by the Census Bureau counts only purchased fuels, and therefore may not include refiners who burn part of their output as plant fuel, or integrated steel companies that use their own coal and coke.[3] The 1977 input-output tables are more complete, but their use today requires the assumption of unchanged ratios of fuel use in the last 10 years.[4] Moreover, any data on the physical flow of energy or oil inputs into production will overstate the cost burden of oil taxes since no allowance is made for the possibility of input substitution in production.

Despite these limitations, both the Census Bureau report and the input-output tables suggest the same industries would be affected by increases in the price of oil, but that their costs would only rise by a few percentage points. Of the internationally traded goods industries, other than the refining industry, the paper industry seems to be the most vulnerable. Both analyses suggest that the paper industry's oil product purchases account for between 2 percent and 3 percent of its purchased inputs and

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2. Energy Information Administration, *1984 Annual Energy Review* (Washington, D.C.: Government Printing Office, 1985), p. 179.

3. Bureau of the Census, *1982 Census of Manufactures: Fuels and Electric Energy Used* (Washington, D.C.: Government Printing Office, 1983).

4. "Input-Output Structure of the U.S. Economy, 1977," *Survey of Current Business* (May 1984).

labor. The Canadian paper industry is located close to the U.S. market and supplies a significant fraction of U.S. consumption. It is also a significant consumer of natural gas and electricity. New England and the Middle Atlantic states account for the largest share of paper production and have a relatively large amount of oil-generated electrical capacity.

Chemical production would also feel the impact as natural gas prices rose in response to a tax; the chemical industry uses about 10 times as much natural gas, measured in energy content, as oil.[5] Worldwide, there is excess capacity in every facet of the chemical industry, and many foreign producers have a sizable presence in the U.S. market, especially in the fertilizer market.[6] The U.S. chemical industry also has substantial exports that could be placed at risk if their prices rose substantially.

Oil taxes would harm agricultural exports by increasing petrochemical costs, fuel costs, and transportation costs. According to the 1977 input-output tables, oil costs represent 7 percent of purchased inputs (non-land, non-capital equipment) in agriculture, and chemical products (discussed above) represent another 20 percent.[7] Further, U.S. agricultural exports are already under challenge internationally: agricultural exports in January to November 1985 fell by a quarter from their 1984 level, while aggregate U.S. merchandise exports fell less than 2 percent during a similar period.[8] U.S. agricultural exports accounted for 14 percent of total merchandise exports in the first three quarters of 1985.[9]

Other industries that have high energy costs are often more dependent on natural gas or coal than on oil. For instance, for the stone, clay, and glass industrial group, energy costs represent 11 percent of costs, but oil

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5. Bureau of the Census, *1982 Census of Manufactures: Fuels and Electric Energy Used* (Washington, D.C.: Government Printing Office, 1983).

6. See Congressional Budget Office, *Effects of Countervailing Duties on Natural Resource Input Subsidies* (September 1985).

7. Increased use of foreign fertilizer and other petrochemicals could reduce the negative effects of oil taxes on U.S. agricultural exports.

8. Council of Economic Advisers, *1986 Economic Report of the President* (Washington, D.C.: Government Printing Office, 1986), pp. 364 and 368.

9. Ibid., p. 368.

only accounts directly for 0.8 percent. Similarly, in primary metals industries, oil purchases represent only 6 percent of energy costs: natural gas and coal are much more important. 10/

THIRD-WORLD INDEBTEDNESS

Oil prices are an important factor in debt repayment by developing countries. Several major oil producers, most notably Mexico, appear unable to meet the required payments on their international debt. Recent declines in oil prices have aggravated their problems. Conversely, lower oil prices have eased the burden placed on oil-consuming debtor countries, such as Brazil. Oil-producing debtor countries hold only a fraction of the more than $900 billion worth of debt accumulated by countries other than the major industrialized countries. 11/ Consequently, some analysts argue that, on balance, decreases in world oil prices help debtor countries. On the other hand, a simple comparison of the total amount of debt owed by oil importers and oil exporters ignores how near default some of them are, and the concentration of debt in a few of them. Mexico alone accounts for one-ninth of all the outstanding debt (close to $100 billion) and had required several reschedulings of its obligations before the recent decline in oil prices. The only oil importer with a similar level of debt is Brazil, and it is much more secure in its ability to meet its debt payments.

In general, an oil tax would injure Mexico and other oil producers by lowering the price of their principal export more than it would assist countries such as Brazil by lowering the price of one of its imports. In the case of Mexico, an oil price reduction of $1.85 per barrel--the anticipated decline in response to a $5.00 import tariff--would lower revenues on oil exports of 1.5 million barrels per day by over $900 million. Conversely, a price decline of the same amount would benefit the Brazilian economy by about $400 million.

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10. Bureau of the Census, *1982 Census of Manufactures: Fuels and Electric Energy Used* (Washington, D.C.: Government Printing Office, 1983).

11. See Organization for Economic Cooperation and Development, *Statistics on External Indebtedness: The Debt and External Liabilities of Developing, CMEA and Certain Other Countries and Territories at End-December 1983 and End-December 1984* (Paris, 1985).

At the same time, an oil import tariff could create benefits for all debtor countries by lowering interest rates. Lower rates are to be expected if the federal deficit is reduced and if falling world oil prices result in lower inflation rates outside the United States, allowing foreign central banks to reduce their interest rates. An interest rate decline of one percentage point (100 basis points) would create benefits for Mexico as large as the decrease in its oil export revenues resulting from a $5.00 import tariff on crude oil.

The effect of U.S. oil taxes on Mexico would depend crucially on the level of oil prices before the taxes were imposed. At a price of $10.00 per barrel, it is unlikely that an additional $1.85 price reduction would make any substantial difference, given the previous $15.00 price drop. At prices in the upper teens, the impact of a tariff on Mexico's ability to meet its obligations might be considerable.

DISTRIBUTIONAL EFFECTS

The distributional effects of most of the oil tax options would not be large. While new oil taxes would be remitted by domestic refiners and importers, their true cost would be distributed among producers and users of energy. Some costs would be passed back to foreign suppliers through lower world oil prices. Most of the cost, however, would likely be passed forward to domestic consumers in the form of higher energy prices.

Effects on Consumers

Costs would be passed on directly through higher prices for energy products that were subject to the new taxes, and indirectly through higher prices for non-energy products that used energy inputs in their production.

Because prices for all forms of energy are interrelated, prices for non-taxed energy products would likely rise as well. Thus in the case of an oil import tariff, prices for domestic oil would rise by the full amount of the increase in foreign oil prices while the price of substitute energy commodities such as natural gas and coal would also rise by some amount.

Oil taxes would likely increase consumers' expenditures on energy products and cause them to decrease expenditures on some other commodities. With total expenditures held fixed, by an appropriate monetary policy for example, prices of other goods and services would decline, depressing wages and shareholder returns. The net reduction in real income to consumers would equal taxes paid less the amount passed back to foreign suppli-

ers; the loss in consumers' real income from the increase in the price of non-taxed energy goods would be fully offset by an increase in real income due to the reduction in the price of other goods and services.

Effects on Domestic Producers

The changes in relative prices resulting from oil taxes would also affect the distribution of income among producer groups. For example, under an oil import tariff, shareholders, landholders, and, to a more limited extent, employees in the oil industry and in coal and natural gas production would receive more income, and employees and shareholders in other industries would receive less income. How this would affect the distribution of income among different income groups is not clear, however.

Net Effects on Households

The net effects of new oil taxes on households would be twofold:

- Households would pay less than the full burden of the tax because some of the costs would be shifted to foreign suppliers.
- Household incomes would be redistributed as relative prices, wages, and corporate earnings adjusted.

Distribution of Energy Expenditures. It would be difficult, if not impossible, to trace out all of the distributional effects of oil taxes on households. This would require specification of how prices of different goods and services would increase as a result of higher energy costs in production and transportation, and estimation of the reduction in non-energy prices because of increased household spending on energy. Some insight into the effects of such taxes can be gained, however, by focusing on changes in direct household consumption of energy products. Because prices for all sources of energy are closely related, these changes would include the effects of higher prices on both taxed energy goods and untaxed substitutes. The changes would not include the indirect effects of higher prices on non-energy products that use energy inputs in their production, or of relatively lower prices for other goods and services, nor would they take account of changes in the distribution of income resulting from shifts in the amount of income originating in different industries.

The distribution of energy expenditures is depicted in this section as both a percentage of income and a percentage of total expenditures.

Because income is measured only over one year, energy expenditures as a percent of income may overstate the usual fraction of income spent on energy. A family's income may fall temporarily for one year, perhaps because of a short-term layoff, a spell of unemployment, or, for the self-employed, a period of low or negative earnings. Families experiencing a temporary drop in income are likely to maintain their previous level of consumption, including expenditures on energy, in the expectation that their income will return to its normal level.

Ideally, income data would cover a number of years so that temporary declines or increases in income would not have a pronounced effect. Because total expenditures generally are thought to reflect long-term income, total expenditures may be a better proxy for permanent income than is income from a single year. Thus energy expenditures as a percent of total expenditures may better measure the fraction of income spent on energy over the long term.

Energy expenditures in 1982 and 1983 (adjusted to reflect energy prices consistent with a $23.00 per barrel price of oil) were a much higher percent of income for low-income families than for others. Families with incomes of less than $5,000 spent between 25 percent and 30 percent of their income on energy, compared with average expenditures of just over 7 percent of income for all families.[12] Families with incomes of $50,000 or more spent just under 5 percent of their income on direct energy consumption. Energy expenditures as a percent of income are highest in the Midwest and lowest in the West. The distribution by income within each region was quite similar, taking into account regional differences in total expenditures.

The degree to which energy expenditures as a percent of one year's income overstate the fraction of income spent on energy by low-income consumers can be illustrated by looking at income measured over some longer period. While income data for more than one year are not currently available from the 1982-1983 survey, it is possible to measure income over

12. All data are from the Bureau of Labor Statistics, *Consumer Expenditure Survey*, 1982 and 1983. The percent of income spent on energy by families with incomes under $5,000 is partially distorted in the West by unusually low incomes and high expenditures on energy by low-income families. Even though incomes for low-income families in the West averaged only $1,000, their average energy expenditures were higher than the average for families in the West with income between $5,000 and $10,000, and proportionally much higher than the energy expenditures observed for low-income families in the West in 1980 and 1981.

two years using data from the 1980-1981 survey. These data show that for families with incomes less than $5,000 per year, energy expenditures as a percent of income fall from 30.3 percent to 20.0 percent when income is measured as the average over two years.

In some ways these data may understate the percent of income spent on energy by some low-income families. The data do not include indirect costs of utility and fuel expenditures to renters who do not pay their own utility bills. Because the proportion of renters is greater among low-income families, this will tend to understate energy expenditures for those families. In addition, the energy expenditure data do not include payments made directly to suppliers on behalf of low-income families by either public or private energy assistance programs.

In contrast to income-based measurements, the percent of expenditures allocated to energy for low-income families is close to that for all families. Low-income families allocate 9.6 percent of their expenditures to energy, compared with 9.0 percent for all families. Energy expenditures as a percent of total expenditures decline with incomes above $10,000, but by far less than energy expenditures as a percent of income, remaining within two percentage points of the overall average in all income classes. The pattern of energy expenditures as a percent of average total expenditures by region follows the same pattern as the percent of income spent on energy. The percentages are lowest in the West and highest in the Midwest.

The regional distribution of total energy expenditures hides some important differences in the components of these expenditures across income and regions. Except for the lowest and highest income classes, gasoline expenditures make up an increasing percent of total energy expenditures as income rises. The percent spent for fuel oil declines with income, as does the percent spent on natural gas in all but the highest income category. Gasoline expenditures are a much larger percent of total fuel expenditures in the West than in other regions, while the percent of expenditures allocated to fuel oil in the Northeast is more than four times the percent spent in any other region.

These data suggest the following general results:

- Because energy expenditures as a percent of income are highest for the lowest-income groups and decline sharply as income rises, the relative burden of oil taxes as a percent of income would be highest for low-income families. However, because energy expenditures as a percent of total expenditures are roughly constant across income classes, the relative burden of oil taxes

as a percent of permanent incomes might not vary greatly across incomes. This latter measure, although not perfect, is probably a better measure of the regressivity of energy taxes.

- Because energy expenditures are about the same percent of total expenditures across income levels, the distributional effects of oil taxes would be similar to the distributional effects of more broadly based consumption taxes, but slightly more regressive.

- Taxes that increased the relative price of fuel oil would have the greatest impact on the Northeast region, while taxes that increased the relative price of gasoline would have the greatest impact on the West. However, because the share of gasoline as a percent of total energy expenditures rises with income, a motor fuels tax would be somewhat less regressive than the other energy taxes.

Distributional Effects of Specific Oil Taxes. The distributional effects on households of the five specific oil taxes are considered in the following tables. Table 9 shows how such taxes would have affected income and expenditures in 1982-1983, assuming that oil prices were $23.00 a barrel. They would have raised fuel expenditures as a percent of total income and total expenditures. The distribution of increased expenditures across income levels in each of the plans would be as expected, declining as a percent of income but roughly constant as a percent of expenditures as income increases. The average dollar change in energy expenditures in each of the five plans would be approximately the same, varying by no more than 5 percent of the average over the five plans.

There would be only slight differences in the change in average energy expenditures as a percent of income or of total expenditures among the plans. The energy tax, the oil import tariff, and the excise tax would be slightly more regressive than the other two tax plans, but the differences would be so small that many would regard them as negligible. One reason why the distributional results for the plans look so similar is that none of the taxes would greatly increase average energy expenditures.

While the distribution of the change in expenditures by income class is a good measure of the burden of the tax relative to a family's ability to pay, a better measure would take account of differences in family size. One such measure is the official poverty threshold determined each year by the Bureau of the Census. However, the data necessary to reclassify families by their income status relative to the poverty line are available only for 1980 and 1981.

TABLE 9. ESTIMATED EFFECTS OF OIL TAXES ON AVERAGE ANNUAL FUEL EXPENDITURES OF HOUSEHOLDS, BY INCOME, 1982-1983

Income Level	Import Tariff	Excise Tax	Motor Fuels Tax	Combination of Taxes	Energy Tax
All Income Levels					
Increase in fuel expenditures (in dollars)	77	75	72	73	70
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.4
Less Than $5,000					
Increase in fuel expenditures (in dollars)	33	31	27	29	33
As percent of income	1.3	1.2	1.1	1.1	1.3
As percent of total expenditures	0.4	0.4	0.3	0.4	0.4
$5,000 to $9,999					
Increase in fuel expenditures (in dollars)	45	43	37	39	46
As percent of income	0.6	0.6	0.5	0.5	0.6
As percent of total expenditures	0.5	0.4	0.4	0.4	0.5
$10,000 to $19,999					
Increase in fuel expenditures (in dollars)	62	61	57	58	57
As percent of income	0.5	0.5	0.5	0.5	0.5
As percent of total expenditures	0.5	0.5	0.4	0.4	0.4

(Continued)

When this poverty-line measurement is used, the energy tax appears somewhat more regressive. Poor families would pay 7 percent of the total increase in energy expenditures under a broad-based energy tax as opposed to shares ranging from 4.3 percent to 5.5 percent for the other taxes. Families in poverty would have the smallest relative burden under the motor fuels tax, but even here the difference from the burden imposed by other

TABLE 9. Continued

Income Level	Import Tariff	Excise Tax	Motor Fuels Tax	Combination of Taxes	Energy Tax
$20,000 to $29,999					
Increase in fuel expenditures (in dollars)	76	74	71	72	65
As percent of income	0.4	0.4	0.4	0.4	0.4
As percent of total expenditures	0.5	0.5	0.4	0.4	0.4
$30,000 to $39,999					
Increase in fuel expenditures (in dollars)	89	88	87	87	78
As percent of income	0.4	0.4	0.4	0.4	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.4
$40,000 to $49,999					
Increase in fuel expenditures (in dollars)	103	100	100	100	89
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.3
$50,000 and Over					
Increase in fuel expenditures (in dollars)	123	119	119	118	108
As percent of income	0.2	0.2	0.2	0.2	0.2
As percent of total expenditures	0.3	0.3	0.3	0.3	0.3

SOURCE: Congressional Budget Office.

NOTE: Oil prices are assumed to be $23.00 per barrel.

taxes would be relatively small. Comparing simple expenditure burdens, however, may overstate the effects of oil taxes on poor families. About one-half of poor families receive most of their income from transfer payments. Because the real value of these transfers is maintained either explicitly through cost-of-living increases or implicitly through periodic adjustments, these families would be protected from most, but not all, real

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income losses resulting from additional oil taxes. In other ways, the same approach may understate the effects. The data do not include the indirect cost of fuel and utility expenditures to renters who do not pay their own utility bills. Poor families are much more likely than the rest of the population to rent rather than own their homes. Finally, poverty status is determined on the basis of a single year's income. As discussed previously, this may not accurately reflect a family's true income status over the longer term.

Table 10 shows the effects of oil taxes on household expenditures by region when oil prices are $23.00 per barrel. Here again the effects in relation to both income and expenditures would be quite small and, except for the oil import tariff, there would be little difference among the five plans. The Northeast region would do slightly better than the rest of the country under the motor fuels tax. The West region would do better under the energy tax. The biggest losses, however, would be for the Northeast region under the oil import tariff. Because of insufficient local refining capacity and the cost of shipping domestically refined oil, the Northeast would also face higher home heating oil and motor fuel prices than the rest of the country as a result of the additional $5.00 import tariff on refined products.

Distributional Effects with Alternative Price Assumptions. The analysis up to this point has assumed an oil price of $23.00 per barrel. The distributional effects would be largely unchanged under price assumptions of $18.00 or $13.00 per barrel. However, while the relative change in energy expenditures across incomes would be the same, the dollar increase in energy expenditures at all income levels would be very different in at least one case.

Table 11 shows the change in overall average energy expenditures under the five tax proposals at three levels of oil prices. The change in average energy expenditures would be virtually the same for the three price assumptions under the excise tax, the motor fuels tax, and the combination of taxes. Because the energy tax would be a percent of the final sale price of energy products, the average increase in energy expenditures from this tax would be smaller with lower oil prices. However, the change in energy expenditures as a percent of income or total expenditures would be almost identical at the three oil prices.

Under the import tariff, the change in average energy expenditures would be more than twice as high if oil prices were $13.00 per barrel instead of either $23.00 or $18.00 per barrel. This follows from the assumption, dis-

TABLE 10. ESTIMATED EFFECTS OF OIL TAXES ON AVERAGE ANNUAL FUEL EXPENDITURES OF HOUSEHOLDS, BY REGION, 1982-1983

Region	Import Tariff	Excise Tax	Motor Fuels Tax	Combination of Taxes	Energy Tax
All Regions					
Increase in fuel expenditures (in dollars)	77	75	72	73	70
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.4
Northeast					
Increase in fuel expenditures (in dollars)	101	78	59	68	70
As percent of income	0.5	0.4	0.3	0.3	0.3
As percent of total expenditures	0.6	0.4	0.3	0.4	0.4
Midwest					
Increase in fuel expenditures (in dollars)	73	77	74	75	77
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.4
South					
Increase in fuel expenditures (in dollars)	70	74	76	75	71
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.4
West					
Increase in fuel expenditures (in dollars)	67	71	77	73	59
As percent of income	0.3	0.3	0.3	0.3	0.2
As percent of total expenditures	0.3	0.3	0.4	0.4	0.3

SOURCE: Congressional Budget Office.

NOTE: Oil prices are assumed to be $23.00 per barrel.

TABLE 11. ESTIMATED EFFECTS OF OIL TAXES ON AVERAGE ANNUAL FUEL EXPENDITURES OF HOUSEHOLDS AT THREE LEVELS OF OIL PRICES, 1982-1983

Income Levels	Import Tariff	Excise Tax	Motor Fuels Tax	Combination of Taxes	Energy Tax
Oil Price: $23.00 per Barrel					
All Income Levels					
Increase in fuel expenditures (in dollars)	77	75	72	73	70
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.4
Oil Price: $18.00 per Barrel					
All Income Levels					
Increase in fuel expenditures (in dollars)	78	77	72	74	65
As percent of income	0.3	0.3	0.3	0.3	0.3
As percent of total expenditures	0.4	0.4	0.4	0.4	0.3
Oil Price: $13.00 per Barrel					
All Income Levels					
Increase in fuel expenditures (in dollars)	169	79	71	74	59
As percent of income	0.7	0.3	0.3	0.3	0.3
As percent of total expenditures	0.9	0.4	0.4	0.4	0.3

SOURCE: Congressional Budget Office.

cussed previously, that at $13.00 per barrel domestic demand would exceed the domestic supply of refined products, and prices would reflect the additional $5.00 tariff on refined products.

Under this tax option, average energy expenditures at $13.00 per barrel would be only 2 percent less than energy expenditures at $18.00 per barrel. This would generally be true for all income classes and regions.

EXEMPTIONS AND REFUNDS

Proposals have been made to exempt certain consumers and producers of oil from any new tax or tariff, and to compensate low-income households for their increased expenditures.

Exemptions for Home Heating Oil

Exempting home heating oil from a $5.00 per barrel tax or tariff would cost $1.3 billion, although the administration of such a program might prove difficult and the loss to the Treasury could be much larger if cheating became prevalent. In 1984, U.S. households consumed 710,000 barrels per day of distillate fuel oil, up 6 percent from the previous year. 13/ Assuming domestic heating oil consumption remained in the 700,000 barrel per day range and all taxes on crude oil were passed uniformly across all products, then a program to hold heating oil prices steady would consume a substantial portion of the net deficit reduction provided by an oil import tariff.

Administering such a program might pose some difficulties. Home heating oil accounts for only one-quarter of all distillate fuel oil, 0.7 million barrels per day out of 2.8 million barrels per day. The remainder is used in heating commercial structures, as industrial fuel, and as diesel fuel. A $5.00 per barrel exemption or rebate at the refinery gate or entry port might encourage reclassification of products in order to qualify for such a program. However, administering a rebate or refund program farther downstream in the distribution network would increase the administrative costs. At the consumer level, such a program would be very complex administratively.

This administrative complexity suggests that the Congress ought to consider very closely the goals of such a program. If helping low-income people is a concern, an alternative would be to provide income grants. Most home heating oil is not consumed by poor people: heating oil consumption rises absolutely with income. If horizontal equity is a concern, the exemption should be extended to other products, since people who drive to work would feel their income reduced as much as would people who heat with oil.

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13. Energy Information Administration, *1984 Annual Energy Review* (Washington, D.C.: Government Printing Office, 1985), p.113.

Exemptions for Mexican and Canadian Imports

Proposals have been made to exempt Mexican and/or Canadian oil from a tax or tariff. In order to avoid massive shuffling of import sources, a quota would obviously have to be set for such exemptions. Current gross or net import levels would be one choice for a quota level. Mexican net imports in 1985 were 750,000 barrels per day.[14] A 750,000 barrel per day exemption for Mexican imports would reduce tariff revenues by $1.0 billion. Canadian net imports in 1985 were 700,000 barrels per day. Providing this level of Canadian imports with an exemption would reduce tariff revenues by $950 million.

Exemptions for the Virgin Islands

Under current law, goods manufactured in the U.S. Virgin Islands are exempt from U.S. tariffs. The Virgin Islands are a major refining center. At the current level of imports (240,000 barrels per day), if this exemption were applied to a $5.00 tariff or excise tax, tariff revenues would fall by $440 million. Given the benefit of a tax exemption, however, the yearly throughput of Virgin Islands refining would be likely to rise to 300,000 or 325,000 barrels per day (recent peak levels of throughput), and the sources of oil for the refinery would shift to foreign oil. The decline in tariff revenues might then rise to between $550 million and $600 million per year. Exemption for the Virgin Islands would also give refiners enormous incentive to place more refineries there, in which case the Treasury loss would be substantially higher.

Exemptions for Domestic Oil Sources

If the Congress chose to put an excise tax on all oil, both domestic and refined, some Members might argue that certain domestic oil producers should be exempted in the same way as some domestic oil producers are currently exempt from the windfall profit tax. The major categories of exempt producers include state and local governments and their agencies, qualified educational and medical institutions, Indian tribes, and the first 1,000 barrels per day of output from independent producers. Wells producing less than 10 barrels per day are also exempt. Exempting all of these categories of oil from a $5.00 per barrel excise tax would reduce excise tax revenues by $3.1 billion per year.

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14. *Oil Supply Monthly* (December 1985), p.44. Previous years are in the 700,000 to 830,000 barrels per day range.

Compensation for Low-Income Households

Energy taxes, like any broad consumption tax, are regressive in that they take a somewhat greater percentage of the income of poor people. Many of the effects of higher oil prices would be felt indirectly by consumers; they could not be alleviated with simple exemptions from tax on one or more products. Poor families would pay about 7 percent of the total increase in energy expenditures resulting from a broad-based energy tax, and between 4.3 percent and 5.5 percent of the corresponding costs under other options. Therefore, the burden on the poor could be offset with a relatively small loss in net budgetary gains. About one-half of poor families currently receive most of their income from transfer payments; because the real value of these transfers is maintained either explicitly through cost-of-living increases or implicitly through periodic adjustments, these families would be protected from much, but not all, of any real income loss. 15/

One way to provide further protection for the poor would be to raise the earned income credit or otherwise use the tax system to compensate for the lost income. This would only partially alleviate the burden on the poor, because only about one-third of all poor families receive an earned income credit. The rest do not receive the credit either because they have no income from earnings or they have no children. In 1983 the average earned income credit was $286. A $40.00 increase in the average credit could be achieved by raising the rate at which the credit was applied by 14 percent--from 10 percent to 11.4 percent--and making an equivalent change in the rate at which the credit was phased out. Doing so would raise the total cost of the credit by about $250 million.

15. Since poor people spend a larger than average share of their income on energy, an inflation adjustment based on the Consumer Price Index would not perfectly compensate them.